



STATIONARY COMPOSITE VACUUM SAMPLER · REFRIGERATED

Model S5000 Stationary Composite Vacuum Sampler

Accurate samples matter for accurate data — for permit compliance, plant records, or an audit. The Model S5000 design has been in the field for over 50 years and still provides reliable, accurate sampling. The units are durable and have exceptional life in the field, some exceeding 25 years.

A large 5/8-in intake path and 35 psi purge make the S5000 a favorite for high-solids locations — a long favorite of paper mills and municipal sites where suspended solids are a major problem.



AMBIENT RANGE

32–110°F*

FLUID PATH

5/8th

TRANSPORT VEL.

9.75 L/min

BOTTLE CONFIG

Single

SAMPLE ACCURACY

±0.5% Vol.

* Extends to -40°F with the optional heated 73i Fiberglass Sampler Enclosure (NEMA 3R rated).



Vacuum Sampling Technology

Vacuum sampling technology collects sample fluids without passing them through a pump, preserving their original state. High transport velocities (2 to 10 ft/s EPA recommended) maintain representative solids suspension. A durable vacuum compressor provides years of precise operation, while reliable components and no consumables minimize maintenance and spare-parts costs. A fast transport velocity enables long horizontal draws (100 ft) unaffected by changing head height, eliminating the need to compensate for draw height or intake line length.



Intuitive and Rugged Control Interface

Engineered for reliable everyday sampling, the interface features an intuitive analog interface that eliminates complex menu navigation, digital displays, and membrane keypads. Dedicated dial selectors allow operators to quickly set functions, featuring a Mode knob (Off, Manual Cycle, Time, or Flow) and an Interval knob to set sampling frequencies. Simple controls, simple to operate, simple to learn. An optional Totalizer enables flow-proportional operation by accepting contact closure inputs directly from an external flow meter or primary control system.



Accurate Composite Sampling

The S5000 functions as a dedicated single-bottle composite sampler, utilizing Manning's signature vacuum technology to deliver exceptional volumetric accuracy and repeatability regardless of head height. Because the vacuum mechanism operates completely without wearable pump consumables, operators can significantly shorten sampling intervals without incurring additional operational costs. This higher sampling frequency creates a highly representative composite data set, capturing critical flow variations and helping ensure regulatory peak events are not missed during standard hourly intervals.



5.5 cu. ft. (156 L) Refrigerator

Available in Digital and Non-Digital control versions for protected, indoor, or sheltered installations, it holds samples at the EPA-recommended 0–4°C across a 32–110°F (0–43.3°C) ambient range. Housed in the optional heated 73i Fiberglass Sampler Enclosure, that range extends down to -40°F (-40°C) for outdoor or unprotected sites.



Manning S5000 Refrigerated Sampler — Specifications

Size (H × W × D)	Controller enclosure 20 × 22 × 14.5 in. Refrigerator 5.5 cu. ft. 23.63 × 33.5 × 23.5 in (600 × 851 × 597 mm) Optional 73i Fiberglass Enclosure: H 73.5 × W 32.2 × D 29.9 in
Weight (dry)	Controller enclosure: 56.5 lbs (25.62 kg). Refrigerator (5.5 cu. ft.): 100 lbs (45 kg).
Environmental Protection	NEMA 12 indoor enclosure, polyurethane-finished metal, gasketed key-lock door. Optional: NEMA 3R 73i Fiberglass Enclosure for outdoor installation.
Refrigeration	Maintains samples at 0–4°C (32–39°F) . Epoxy coated copper lines.
Temperature Limits	Standard unit: 32–110°F (0–43.3°C) . Optional Fiberglass Enclosure extends the range to -40–110°F .
Sample Pump	Vacuum compressor — sample does not pass through a pump; no scheduled pump-tubing replacement.
Sample Volume	Measuring chamber adjustable 20 mL to 1 L , reproducible to ±0.5%.
Maximum Lift	28 ft (8.53 m) *Over 20 ft
Transport Velocity	9.75 L/min @ 5 ft of lift, through 5/8-in ID hose.
Suction Hose	Clear or reinforced 5/8-in PVC hose.
Sample Cycle	Purge, draw sample, measure sample, deposit. Max draw time 30 or 90 sec (jumper-selectable); two draw attempts per cycle.
Purge Pressure	Minimum 35 psi (2.46 kg/cm ²).
Power	Controller: 110 VAC (60 Hz) . Refrigerator: 110 VAC (60 Hz) .
I/O	Contact closure or optional 4–20 mA input (optional Flow Signal Totalizer).

**Suction Height/Driving Pressure: 0 ft/14.73 psi, 10 ft/9.3 psi, 20 ft/4.4 psi, 25 ft/1.9 psi. Recommended to 20 ft. Ask about booster pump setups.*

Sampler Programming

Time Interval Control	Intervals of 3.75, 7.5, 15, or 30 minutes, or 1, 2, 4, 6, 12, or 24 hours, switch selectable via the Interval knob, with better than ±0.03% accuracy.
Flow Control	Sample cycle is initiated by the optional Totalizer or a dry contact closure (0.25 sec) from an external device. Constant contact closure operates in time override.
Flow Signal Totalizer	Optional — adds the capability to accept and totalize a 4–20-mA signal representing flow.

Warranty

One year warranty.



Model Number Configuration

S50 — Stationary Composite Vacuum Sampler, 5/8-in ID, 115 VAC, 60 Hz. Select one option from each category below to build a complete configuration number. Manual included with all units.

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Select one option from each category below, left to right (Controller → Audio Indicator), to complete the configuration number.

Controller	A 30-second Maximum Draw Time — B 90-second Maximum Draw Time
Input/Output Option	1 Contact closure — 2 Totalizer (4–20 mA)
Refrigerator	A None — D 5.5 cu.ft. White Enamel Refrigerator, Non-Digital — E 5.5 cu.ft. White Enamel Refrigerator, Digital Controls
Bottle Type	1 None — 2 5-gal polyethylene — 3 4-gal polyethylene — 4 2.5-gal polyethylene — 5 2.5-gal/10 L glass w/PTFE-lined cap — 8 2.5-gal/10 L glass w/foam liner in cap — 9 5-gal polyethylene w/snap-on lids
Hose Type	All hose 5/8-in ID. A No Hose — Connector Only. PVC: B 10 ft C 25 ft D 50 ft E 100 ft. Nylon-reinforced PVC: F 10 ft G 25 ft H 50 ft I 100 ft.
Strainer Type	1 None — 2 PVC Strainer (5/8-in) — 3 Stainless Steel Strainer (5/8-in)
Environmental Protection	A None — C 73i Fiberglass Sampler Enclosure w/Fan — D 73i Fiberglass Sampler Enclosure w/Fan & Heater — E 73i Fiberglass Sampler Enclosure w/Fan & Light — F 73i Fiberglass Sampler Enclosure w/Fan, Light & Heater
Alarms	A None — D Three alarm contacts with 3 lamps
Audio Indicator	1 None — 2 Audio Indicator (Alarm Option D required)

*Specify alarm to which audio indicator should be wired.



Engineering Specification

Written for direct use in submittals. Plain numbered list, no design elements — copy and paste as needed.

1. The sampler is suitable for automatic collection and preservation of composite liquid samples.
2. The standard enclosure is NEMA 12, rated for indoor installation, metal construction with a polyurethane finish; controls are panel-mounted with a gasketed, key-lock door.
3. Minimum internal diameter (ID) of all wetted parts is 5/8 inch. Samples are collected using a measuring chamber adjustable 20 mL to 1 L, reproducible to $\pm 0.5\%$ of preset value.
4. The sampler incorporates vacuum compressor technology. The sample does not pass through a pump. Samplers using technologies requiring regularly scheduled parts replacement are not acceptable. A second vacuum compressor can be installed for especially demanding applications (special order).
5. The sampler collects composite samples. An overflow protection mechanism shall automatically terminate any further sampling once the bottle is full.
6. Bottle full condition is detected using a stainless steel sensor located in the bottleneck. It is easily removable for cleaning or replacement without using special tools.
7. The sampler is capable of collecting 20 mL–1 L samples through a 5/8-inch ID sample line at a transport velocity of 9.75 liters per minute at 5 ft of lift. Maximum rated lift is 28 ft (8.53 m).
8. An optional weighted sampling strainer of PVC or stainless steel is available.
9. Operation is controlled by two panel-mounted selector knobs — no digital display or membrane keypad. The Mode knob selects Off, Manual Cycle, Time, or Flow operation.
10. Refrigeration: The Refrigerator is a 5.5 cu. ft. (156 L) unit for protected-from-the-elements, indoor, or sheltered applications only, available in Digital and Non-Digital control versions, with a foam-insulated cabinet and white-finished steel exterior. It maintains the EPA-recommended temperature of 0–4°C within a 32–110°F (0–43.3°C) ambient operating range. Refrigerant: R600a. Compressor: 461-BTU, approximately 0.8 A draw.
11. The sampler purges the sampler hose immediately prior to and following each sample. If a sample is not obtained on the first attempt, the sampler immediately retries to collect the sample. If a sample still cannot be collected, the sampler will omit that sample and continue the sampling sequence.
12. Manual sampling, independent of a programmed sequence, is initiated by turning the Mode knob to Manual Cycle.
13. In the Time Mode, the interval between samples is adjustable in switch-selectable increments (3.75, 7.5, 15, or 30 minutes, or 1, 2, 4, 6, 12, or 24 hours) via the Interval knob, better than $\pm 0.03\%$ accuracy. In the Flow Mode, the sampler accepts a dry contact closure from an external flow meter; an optional Flow Signal Totalizer accepts a 4–20-mA DC analog signal.
14. The entire refrigerated sampler may be housed in an optional weather-resistant 73i Fiberglass Sampler Enclosure (NEMA 3R rated), H 73.5 × W 32.2 × D 29.9 in, made of fiberglass-reinforced polyester and insulated with polyurethane. It is equipped with a full-sized gasketed door with lockable latch and access holes for the sampling hose. It also includes any or all of the following (all optional): a heater with thermostat suitable for sampler operation to -40°F outside temperature, a light, and/or a fan.
15. This sampler is a Manning Model S5000 series.

In the interest of improving and updating its equipment, Manning reserves the right to alter specifications for equipment at any time.